

## H. Toyokuni\* On the Ultrabasicosaxicolous Flora of Hokkaidô, Japan (9)

豊国秀夫：北海道の超塩基性岩植物に就いて（其の9）

26. **Adenophora pereskiaefolia** Fischer var. **uryuensis** (Miyabe et Tatewaki) Toyokuni et Nosaka in Acta Phytotax. et Geobot. 18 : 223 (1960).

Syn. *A. uryuensis* Miyabe et Tatewaki in Trans. Sapporo Nat. Hist. Soc. 14 : 80, f. 7 (1935)-Hara, Enum. Spermat. Jap. 2 : 93 (1952)-Toyokuni in Hokuriku Journ. Bot. 5 : 15 (1956)-S. Watanabe in Hokuriku Journ. Bot. 5 : 121 (1956). *A. pereskiaefolia* var. *heterotricha* (non Hara) sensu Ohwi, Fl. Jap. ed. 1 : 1121 (1953) quoad syn. ? *A. uryuensis*, *A. polyantha* (non Nakai) sensu Kitamura et Murata et Hori, Col. Ill. Herb. Pl. Jap. 1, ed. 1 : 94 (1957).

T. U. Endemic (From Mt. Shiratori and its neighbouring mountains downwards to Kamuikotan).

On Mt. Yûpari, a similar variety with not only alternate but partially verticillate leaves is growing mixed with normal *A. pereskiaefolia* var. *heterotricha* in the alpine meadow near Gama-iwa; it is called *A. pereskiaefolia* var. **Yamadæ** Toyokuni et Nosaka in l. c. 224 (1960). This is a metamorphosed variety of the type species. T. U. Endemic (Mt. Yûpari).

See the above-mentioned literature (Toyokuni et Nosaka, 1960) for further details on both varieties.

27. **Achillea ptarmica** Linnaeus subsp. **macrocephala** Heimerl var. **yezoensis** Kitamura in Mem. Coll. Sci. Kyoto Imp. Univ., ser. B, 15-3 : 323 (1940); in *ibid.* 24-1 : 58 (1957)-Hara, Enum. Spermat. Jap. 2 : 105 (1952)-Ohwi, Fl. Jap. ed. 1 : 1180 (1953) ut *A. ptarmica* v. *yezoensis*-Honda, Nom. Pl. Jap. ed. rev. 249 (1957) ut *A. ptarmica* v. *yezoensis*-Kitamura et Murata et Hori, Col. Ill. Herb. Pl. Jap. 1, ed. 1 : 63 (1957).

This is a stenophyllised variety of *A. ptarmica* subsp. *macrocephala* which is wide-spread from Kamtschatka, Dahuria, Saghalien (Sakhalin) and the Kuriles downwards through Hokkaidô to the northern part of Honshû as well as to the island of Sado in Japan sea. Although the present variety was first found at Kamuikotan near the city of Asahigawa, it seems probable that the plant may be distributed in serpentinite areas of Teshio province and northernmost Ishikari

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province. T. U. Endemic (Kamuikotan).

28. **Cirsium kamtschaticum** Ledebour ex De Candolle, Prodr. 6 : 644 (1837) var. **apoense** (Nakai) Toyokuni, stat. nov. Syn. *C. pectinellum* (non A. Gray) sensu Nakai, Rep. Veg. Mt. Apoi, 71 (1930). *C. apoense* Nakai in Bot. Mag. Tokyo, 46 : 629 (1932)-Kitamura in Mem. Coll. Sci. Kyoto Imp. Univ., ser. B, 13:45 (1937)-Hara in Bot. Mag. Tokyo, 52 : 69 (1938) ; Enum. Spermat. Jap. 2 : 169 (1952)-Ohwi, Fl. Jap. ed. 1 : 1208 (1953) ut *apoense*-Honda, Nom. Pl. Jap. ed. rev. 258 (1957) ut *apoense*. *C. kamtschaticum* ssp. *apoense* (Nakai) Kitamura in Acta Phytotax. et Geobot. 15 : 143 (1956); in Mem. Coll. Sci. Univ. Kyoto, ser. B, 24-1 : 44 (1957).

When the present plant was honoured with a name, Nakai compared it with *C. pectinellum* and described "Caulis et foliorum forma cum *C. pectinello* persimillima, sed involucrum heteromorphum." As has been stated by Kitamura, however, the Apoi plant is no doubt a metamorphosed derivative of the polymorphic collective species *C. kamtschaticum*, however akin the form of leaves in the Apoi plant to that in *C. pectinellum* may be; moreover, *C. pectinellum* itself may also be a subspecies or a variety of *C. kamtschaticum*. On Mt. Apoi, the plant under discussion is considerably variable, and sometimes it appears somewhat difficult to distinguish it from pinnatifid-leaved *C. kamtschaticum* grown in sterile and moist places of high mountains. T. U. Endemic (Mt. Apoi and the Nupromapporo).

29. **Crepis gymnopus** Koidzumi in Bot. Mag. Tokyo, 31 : 141 (1917)-Kitamura in Acta Phytotax. et Geobot. 11 : 123 (1942); in Mem. Coll. Sci. Univ. Kyoto, ser. B, 22-1 : 103 (1955)-Babcock in Univ. Calif. Publ. Bot. 22 : 549, f. 158 (1947)-Hara, Enum. Spermat. Jap. 2 : 191 (1952)-Ohwi, Fl. Jap. ed. 1 : 1244 (1953)-Honda, Nom. Pl. Jap. ed. rev. 262 (1957)-Kitamura et Murata et Hori, Col. Ill. Herb. Pl. Jap. 1, ed. 1 : 9 (1957). Syn. *Youngia gymnopus* (Koidzumi) Hara in Journ. Jap. Bot. 14 : 53 (1938); in Bot. Mag. Tokyo, 52 : 182 (1938). This striking plant having the chromosome number of  $2n=8$  is only encountered in ultrabasic rock regions in Hokkaidô. U. R. Endemic (the Nupromapporo, Mt. Shirikoma, Mt. Yûpari, Mt. Horoman, Mt. Apoi, etc.).

30. **Erigeron Thunbergii** A. Gray subsp. **glabratus** Hara var. **angustifolius** (Tatewaki) Hara, Enum. Spermat. Jap. 2 : 199 (1952)-Ohwi, Fl. Jap. ed. 1 : 1154 (1953) ut *E. Thunbergii* v. *angustifolius*-Honda, Nom. Pl. Jap. ed. rev. 263 (1957) ut *E. Thunbergii* v. *angustifolius*.

Syn. *E. glabratus* v. *angustifolius* Tatewaki, Veg. Mt. Apoi, 65 & 83 (1928). *E. Tsuneoi* Tatewaki in Hokkaidô Ringyôkaiho, 30-11 : 593 cum fig. (1935). *Aster Tsuneoi* (Tatewaki) Miyabe et Tatewaki in Trans. Sapporo Nat. Hist. Soc. 14-4 : 265, f. 15 (1936). *Aster dubius* ssp. *glabratus* v. *angustifolius* (Tatewaki) Hara ex

Kitamura in Mem. Coll. Sci. Kyoto Imp. Univ., ser. B, 13 : 375 (1937)-Hara in Bot. Mag. Tokyo, 52 : 8 (1938) cum f. *glabra*. *A. consanguineus* v. *angustifolius* (Tatewaki) Hara in l. c. (1938) pro syn.

This variety is a stenophyllised one of *E. Thunbergii* ssp. *glabratus*. T. U. Endemic (Mt. Apoi and its neighbouring mountains).

On Mt. Yûpari is met with a similar form, which resembles the Apoi variety at glance, though being more pubescent on the margin of leaves. The author named it *E. Thunbergii* ssp. *glabratus* f. *Haruoi* [in Journ. Jap. Bot. 28 : 250 (1953)]. T. U. Endemic (Mt. Yûpari).

Cultivation experiments for such polymorphic plants are needed in clarifying the constancy of metamorphism.

31. **Hypochoeris crepidioides** (Miyabe et Kudo) Tatewaki et Kitamura in Acta Phytotax. et Geobot. 3 : 100 (1934) ut *crepidioides*-Hara in Bot. Mag. Tokyo, 52 : 72 (1938); Enum. Spermat. Jap. 2 : 211 (1952)-Ohwi, Fl. Jap. ed. 1 : 1234 (1953)-Kitamura in Mem. Coll. Sci. Univ. Kyoto, ser. B, 22-1 : 83 (1955)-Honda, Nom. Pl. Jap. ed. rev. 265 (1957)-Kitamura et Murata et Hori, Col. Ill. Herb. Pl. Jap. 1, ed. 1 : 11 (1957). Syn. *Picris crepioides* Miyabe et Kudo in Trans. Sapporo Nat. Hist. Soc. 8 : 6 (1921). *Achyrophorus crepidioides* (Miyabe et Kudo) Kitagawa, Lin. Fl. Manshr. 421 (1939). This is an endemic species on Mt. Apoi; no allied one has hitherto been found in Japan. U. R. Endemic (Mt. Apoi).

32. **Picris hieracioides** Linnaeus subsp. **jessoensis** (Tatewaki) Kitamura in Acta Phytotax. et Geobot. 8 : 126 (1939); in Mem. Coll. Sci. Univ. Kyoto, ser. B, 22-1 : 97 (1955)-Hara, Enum. Spermat. Jap. 2 : 237 (1952)-Honda, Nom. Pl. Jap. ed. rev. 269 (1957). Syn. *P. jessoensis* Tatewaki in Res. Bull. Exp. For. Hokkaidô Imp. Univ. 7 : 199 (1932). *P. japonica* var. *jessoensis* (Tatewaki) Ohwi in Bull. Nat. Sci. Mus. 33 : 90 (1953). Stenophyllised plant derived from *P. hieracioides* subsp. *japonica* or subsp. *kamtschatica* in adaption of ultrabasic rock soil. T. U. Endemic (the Nupromapporo, Mt. Shirikoma, etc.).

33. **Saussurea chionophylla** Takeda in Notes Roy. Bot. Gard. Edinb. 8 : 234, t. 145, f. 8-10 (1915); in Bot. & Zool. 3 : 880, f. 28 (1935)-Nishida in Trans. Sapporo Nat. Hist. Soc. 7 : 139 (1920)-Kitamura in Acta Phytotax. et Geobot. 4 : 4 (1935); in Mem. Coll. Sci. Kyoto Imp. Univ., ser. B, 13 : 149 (1937)-Hara, Enum. Spermat. Jap. 2 : 240 (1952)-Ohwi, Fl. Jap. ed. 1 : 1224 (1953)-Honda, Nom. Pl. Jap. ed. rev. 269 (1957)-Kitamura et Murata et Hori, Col. Ill. Herb. Pl. Jap. 1, ed. 1 : 25 (1957)-Toyokuni in Journ. Jap. Bot. 32 : 222 (1957). This species belongs to the Section *Depressae*, of which the members have smooth or almost smooth receptacles. No allied species have been reported from Hokkaidô. U. R. Endemic (Mt. Yûpari

& Mt. Tottabetsu).

34. **Saussurea Riederi** Herder subsp. **Kudoana** (Tatewaki et Kitamura) Kitamura in Mem. Coll. Sci. Kyoto Imp. Univ., ser. B, 13: 170 (1937) pro syn.; in Acta Phytotax. et Geobot. 12: 182 (1950)-Hara, Enum. Spermat. Jap. 2: 247 (1952)-Kitamura et Murata et Hori, Col. Ill. Herb. Pl. Jap. 1, ed. 1: 27 (1957). Syn. *S. Tokubuchii* Kudo ex Tatewaki, Veg. Mt. Apoi, 67 (1928) nom. nud. *S. Kudoana* Tatewaki et Kitamura in Acta Phytotax. et Geobot. 4: 7 nom. nud. et 76 cum descr. lat. (1935); in Mem. Coll. Sci. Kyoto Imp. Univ., ser. B, 13: 170, t. 22, f. 1 (1937)-Hara in Bot. Mag. Tokyo, 52: 125 (1938)-Ohwi, Fl. Jap. ed. 1: 1227 (1953)-Honda, Nom. Pl. Jap. ed. rev. 270 (1957).

When Kitamura published his elaborate work "Compositae Japonicae 1" in 1937, he amended the spelling of specific epithet in the present species as "*Riederii*", and this correction was also borne out by Honda in 1957. However, according to Rec. 73C-(b) of the Paris Code "When the name ends in a consonant, the letters *ii* are added (*ramondii* from Ramond), except when the name ends in *-er*, when *i* is added (thus *kernerii* from Kerner)", we had better use the epithet *Riederi* as originally proposed by Herder. T. U. Endemic (Mt. Apoi and the neighbouring mountains).

*S. Riederi* ssp. *yezoensis* var. *yuparensis* Kitamura is met with in the alpine meadow of Mt. Yûpári, but the character of the variety is not so definite as compared with that of another varieties of the type species.

35. **Taraxacum yuparensis** H. Koidzumi in Journ. Jap. Bot. 9: 358 (1933)-Kitamura in Jap. Journ. Bot. 13-4: 489 (1949); in Mem. Coll. Sci. Univ. Kyoto, ser. B, 24-1: 3 (1957)-Hara, Enum. Spermat. Jap. 2: 275 (1952)-Ohwi, Fl. Jap. ed. 1: 1237 (1953)-Honda, Nom. Pl. Jap. ed. rev. 275 (1957). Syn. *T. officinale* v. *lividum* subv. *dissectissimum* Koidzumi in Bot. Mag. Tokyo, 31: 142 (1917)-Nishida in Trans. Sapporo Nat. Hist. Soc. 8: 139 (1921). This is characterised by the dissected leaves and small involucre. T. U. Endemic (Mt. Yûpári, Mt. Teine<sup>o</sup> and the Shunbetsu river). In the serpentinite area near Furenai as well as at Takinoue, Yûbari City, there occurs a variety with bigger involucre, which has the name var. **grandisquamatum** Toyokuni in Journ. Jap. Bot. 28: 250 (1953). (to be continued)

<sup>o</sup> Mt. Teine is constructed of andesite.

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